Software Usability and Design Standards Session

Web-based Usability Testing at a Distance: A CDC Website Case Study

Catherine Jamal, M.S. HCI
Usability Specialist, CDC/LMIT
cjamal@cdc.gov

Why Conduct Usability Testing on CDC Web sites?

Determine…

- Is info able to be found?

- Is info easy to find?

- Is info useful and easy to understand?

- Is overall experience pleasant?

Catherine Jamal
cjamal@cdc.gov

Agenda

I. *Screen for Life*: Large-scale, remote user study

II. Several small-scale user studies

III. *Travelers' Health*: Study combining data collection methods

Catherine Jamal
cjamal@cdc.gov

Screen for Life (*SFL*) Campaign Web site User study

- CDC Campaign to increase screening

- Colorectal cancer is #2 cancer killer

- The *SFL* Web site provides campaign materials:

  – Basic colorectal cancer info

  – Downloadable fact sheets, brochures, posters

  – Public service announcements

Motivation for Usability Testing on *SFL* Web site

- People use Internet for health info
- Info on site needs to be useful and easy-to-find
- Exposure to key campaign messages

Good timing…
- Integrating content on Yahoo! Health

Catherine Jamal
cjamal@cdc.gov

SFL Web Site Usability Test

- Expedited OMB* clearance to test 150 users

- Keynote-NetRaker technology
  - Research software platform
  - Online analysis of Web sites with real users
  - Self-develop and manage study

- No Facilitator = Remote, Asynchronous

- Participants do survey where, when they want

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SFL Study: Captured Data Points

Data point	Sample Question
Perceived vs. actual task completion	•*Were you able to complete the task?* •*What is the answer to the task?*
Quality and usefulness of health information	•*How would you rate the usefulness of the information?*
Reported barriers to completing a task	•*How would you rate the ease of finding this info?* •*What difficulties and frustrations, if any, did you encounter in completing this task?*
Degree to which info is likely to influence behavior	•*As a result of viewing the web site, do you plan to change your practices related to colorectal cancer screening?*
Clickstream	•*Use the Web site to complete the task...*

Catherine Jamal
cjamal@cdc.gov

SFL Study: Target Audience

- Critical to producing valid results
- *SFL*'s three target audiences:
  - Clinicians: n = 50
  - Public Health Professionals: n = 50
 - Consumers: n = 100 (2 groups of 50)

SFL Study: Methods

- ## Recruitment
  - Email invitations and Web-based pop-ups
  - Screening questions
  - Snowball recruiting: Ask for referrals

- ## Survey
  - Used live Web site to complete the tasks
  - All interactions with the site were logged
  - 10 minutes Consumers, 20 minutes Clinicians/PHPs

- ## Remuneration
  - $10 Consumers, $25 Clinicians/PHPs

Netraker Survey: Split-screen Format
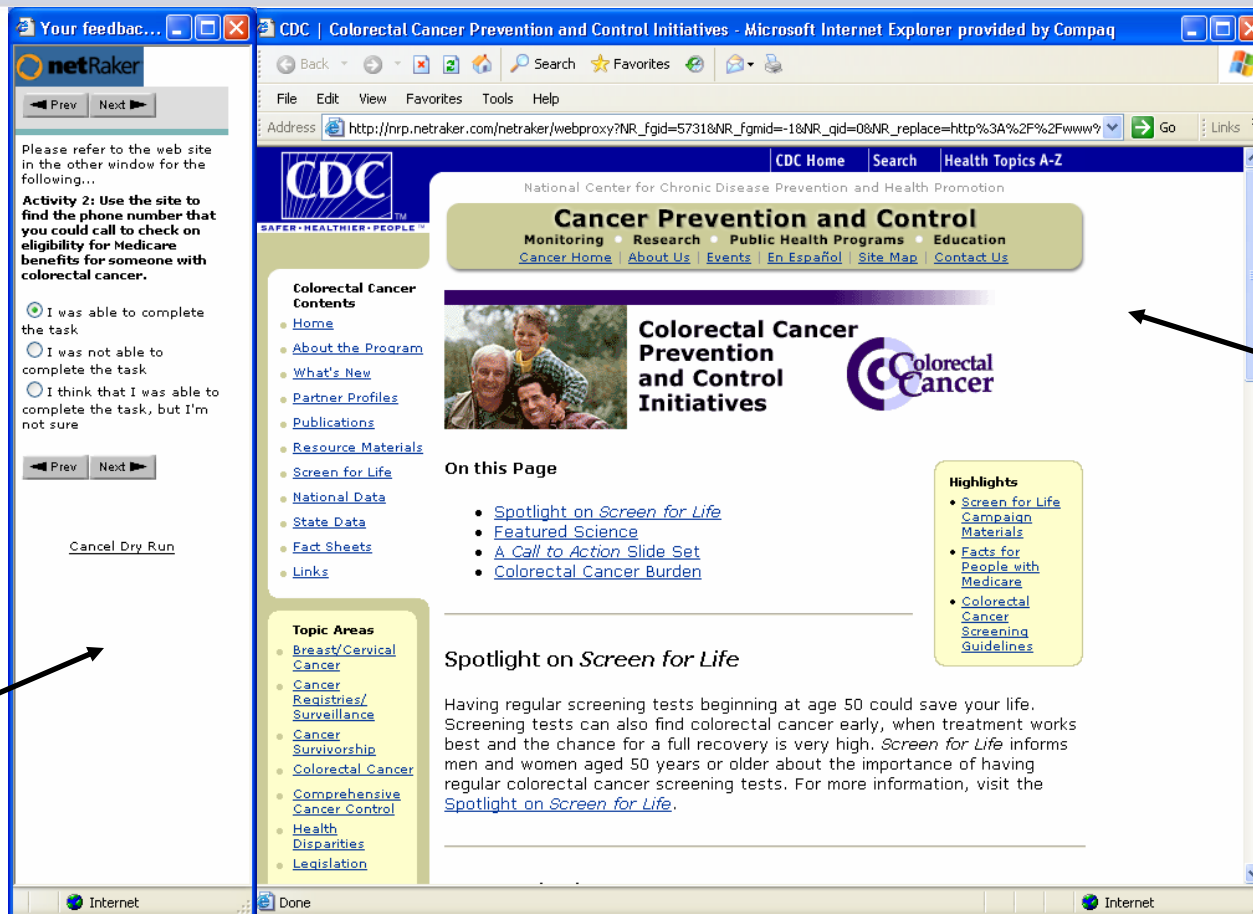
Task question and answer choices

Live Web site: Users can click through to complete task
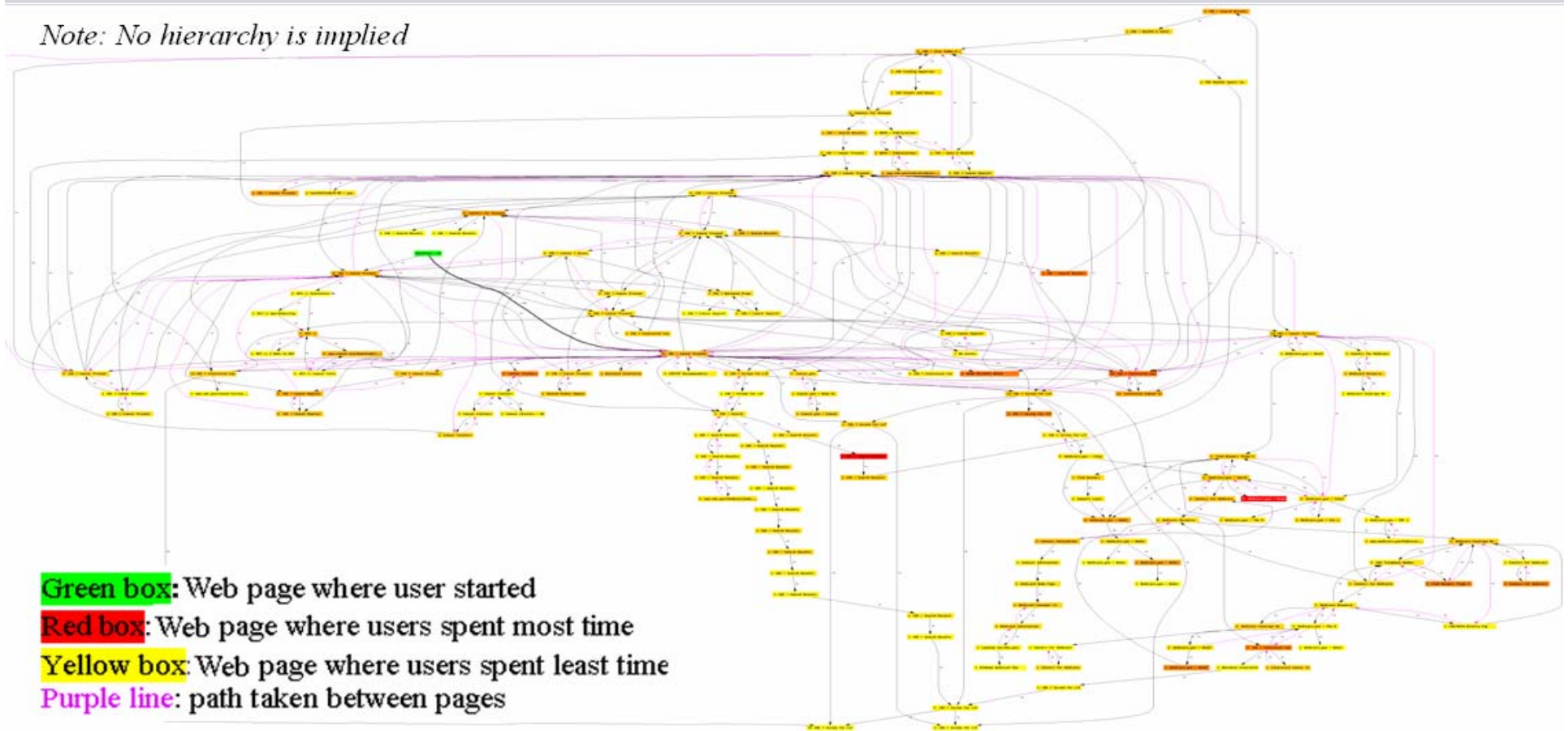
Clickstream

- Automatically captured by tool
- Users path through the site
- Data points
  - Pages visited
  - Average time on page
  - Path between pages
- Large number of pages in no order can mean site is confusing

Catherine Jamal
cjamal@cdc.gov

Clickstream Analysis

- **Where did people go?**
- **How long did they stay?**
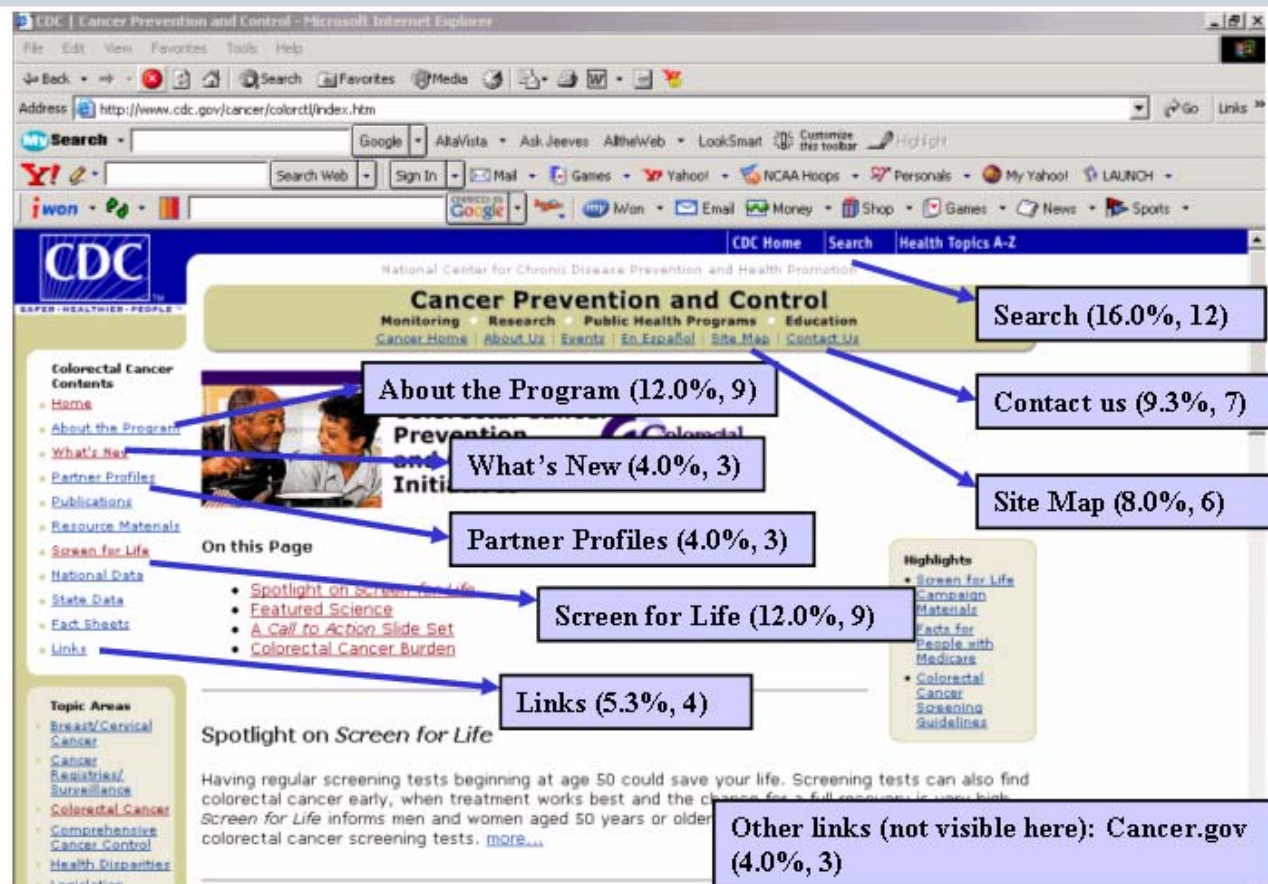- **What path did they take?**
- **Did they leave the site?**

Note: *No hierarchy is implied*

Green box: Web page where user started
Red box: Web page where users spent most time
Yellow box: Web page where users spent least time
Purple line: path taken between pages

Catherine Jamal
cjamal@cdc.gov

SFL Study: Clickstream Data

• **Where did participants go first?**

SFL Study: Clickstream Findings Correlated with Participant Task Responses

- Link nomenclature often unclear

- Too many link choices

- Info not located where expected

- Content on pages is difficult to scan/browse
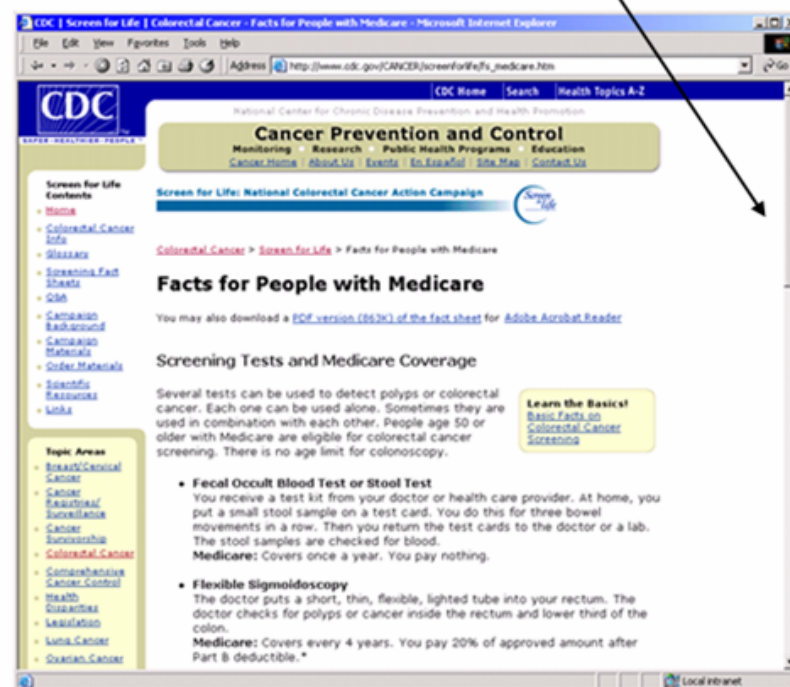
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SFL Study: Before an Interim Site Edit

- No mention of Medicare on homepage

- Finding number requires scrolling

www.cdc.gov/CANCER/screenforlife/index.htm
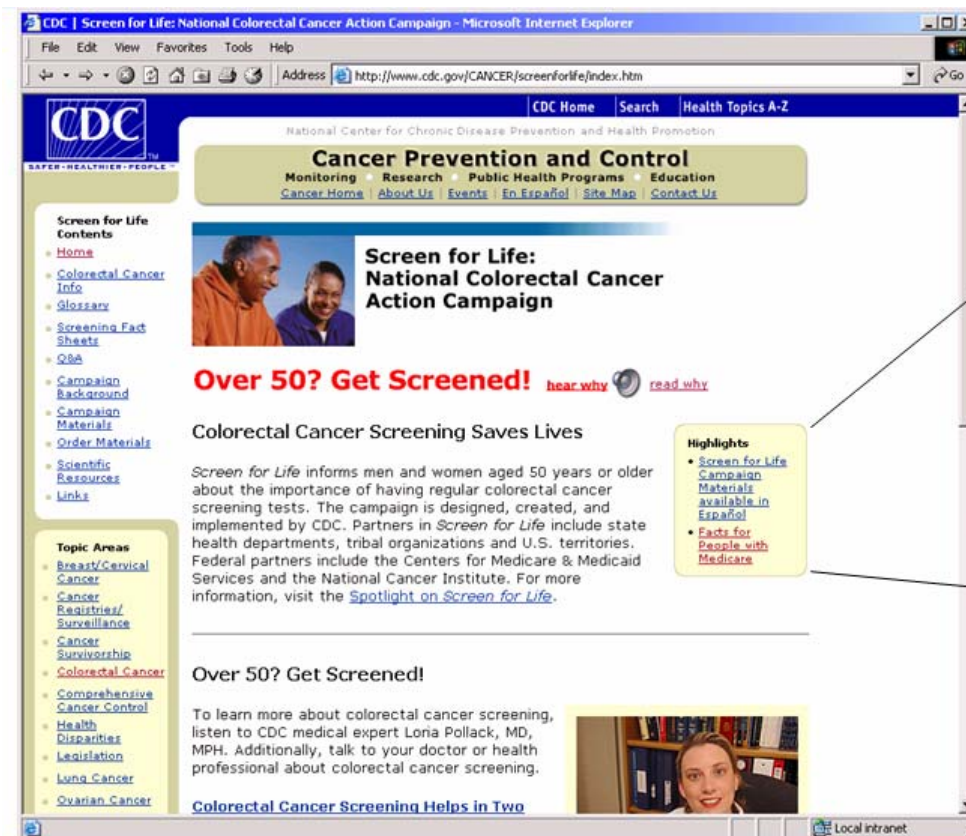
www.cdc.gov/CANCER/screenforlife/fs_medicare.htm

Catherine Jamal
cjamal@cdc.gov
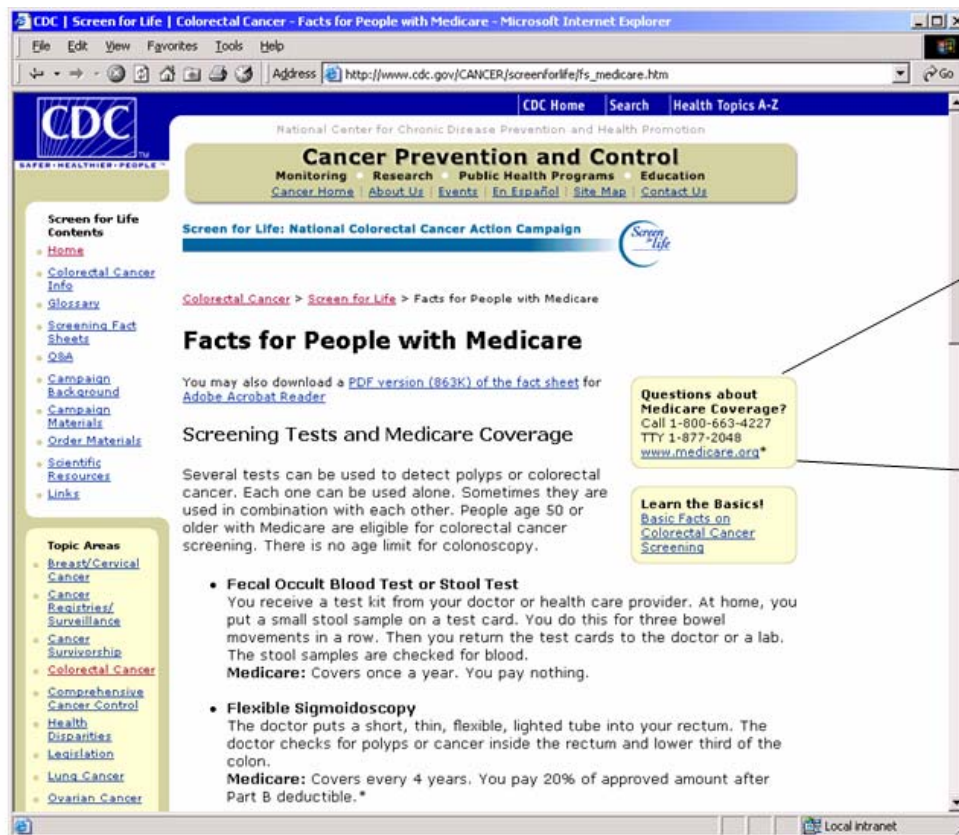
SFL Study: After Interim Site Edit

SFL home page

Catherine Jamal
cjamal@cdc.gov

SFL Study: After Interim Site Edit (cont'd)

SFL homepage > *Facts for People with Medicare*

Small-scale CDC User Studies

(n < 9, no extra OMB* approval)

	Monetary compensation	**No monetary compensation**
Remote	Brand recognition study on Yahoo! Health & WebMD	Ongoing study of various CDC Cancer Websites
In-person	Comprehensive Cancer Control Website study at a Public Health Conference	Conference booth walk-by studies

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Advantages of Remote Testing

- Do study when convenient to participant
- Increased likelihood of availability
- No facilitator required
- Low cost

Catherine Jamal
cjamal@cdc.gov

Disadvantages of Remote Testing

- Hard to probe for user's thoughts
- Can't watch participant
- Abandonment rates are higher
  - *SFL*
    - 67% abandonment rate
    - (But, still met participant quota)

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cjamal@cdc.gov

Combining testing methods: CDC's Travelers' Health Web site

- Highly-trafficked Web site CDC Web site
- Site contents:
  - Health considerations for different countries
  - Vaccination info
  - Outbreak notices
  - Yellow Book (for healthcare professionals)
- Known usability problems

CDC's Travelers' Health Web site User Study

- ## Phased Approach:
  1. Small scale, in person, exploratory study
  2. Large scale, remote study
  3. Small scale, in person, follow-up study

- ## Benefit:
  - Qualitative and quantitative data
  - Low time/money costs
    - Bulk of data doesn't require a moderator
  - User-centered Web site redesign

Contact Information

Catherine Jamal, M.S. HCI
Usability Specialist
CDC / NCID
Lockheed Martin Information Technologies
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